AMENDMENTS TO THE SPECIFICATION

Amendments to the specification below are indicated with insertions underlined (e.g., insertion), and deletions struckthrough or in double brackets (e.g., ~~deletion~~ or [[deletion]]):

Please amend the paragraph beginning on page 5, line 2, as indicated below:

During the drying of a large gel monolith, the gel monolith shrinks in size, and capillary forces in the gel ports arise as the liquid content of the gel monolith is reduced. The tendency of gel monoliths to develop cracks is dependent on these capillary forces. For example, U.S. Patent Application No. 09/615,628 by Wang, et al. (which issued as U.S. Patent No. 6,620,368 on September 16, 2003), entitled "Sol-Gel Process for Production of Oxide-Based Glass and Ceramic Articles," which is incorporated by reference herein, discloses a process that reduces the influence of these forces. The process comprises removing liquid from the pores of the gel monolith such that the outer region of the gel monolith is not dried before the inner region of the gel monolith is dried, thereby avoiding inhomogeneities in the capillary forces which cause stresses and cracking of the gel monolith.

Please amend the paragraph beginning on page 5, line 12, as indicated below:

Because the magnitude of the capillary forces is a function of the sizes of the pores in the gel monolith, the tendency for cracking of gel monoliths may be reduced by tailoring the gel microstructure so as to produce gel monoliths with larger pore sizes. The microstructure of a gel monolith is influenced by the rates of hydrolysis and of polymerization which occur simultaneously during the gelation of the wet gel monolith from the sol. For example, in the case of a silica-based sol in which tetraethylorthosilicate or TEOS ($(C_2H_5O)_4Si$) is mixed with deionized water, a diluent or solvent such as ethyl alcohol or ethanol (C_2H_5OH), and a catalyst such as HF or ammonia, hydrolysis occurs with the following reaction: [[$(C_2H_5O)_4Si + 4H_2O$ Π $4C_2H_5OH + Si(OH)_4$]] $(C_2H_5O)_4Si + 4H_2O \rightarrow 4C_2H_5OH + Si(OH)_4$. The $Si(OH)_4$ molecules polymerize, resulting in a network of SiO2 and water. Numerous factors influence the kinetics of hydrolysis and polymerization, including the type and concentration of any catalysts and the temperature. The influence of the catalyst concentration on the pore sizes of the resultant gel monoliths is illustrated by Want, et al. in U.S. Patent No. 5,264,197. Wang, et al. disclose that increasing the HF catalyst concentration, while maintaining constant concentrations of other constituents of the sol, results in an increase in the average pore radius of the resulting dry gel.